

Install ping

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C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
92473f7ef455: Pull complete
f5b52bde70123: Pull complete
64788f86be3f: Pull complete
33fed5f2e001: Pull complete
Digest: sha256:eed7e1076bbc1f342c4474c718e5438af4784f59a4e88ad687dbb98483b59ee4
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker run -it ubuntu:16.04 /bin/bash
root@9906a05761ce2:/# ping google.com
bash: ping: command not found
root@9906a05761ce2:/# apt-get update
Get:1 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:2 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:4 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2049 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:10 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [985 kB]
Get:11 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.6 kB]
Fetched 19.4 MB in 1min 12s (268 kB/s)
Reading package lists... Done
root@9906a05761ce2:/# apt-get install iputils-ping
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl127 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl127 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 3 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3781 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2 [240 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2-1ubuntu0.16.04.2 [93.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2-1ubuntu0.16.04.2 [136 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2 [46.5 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4 [17.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5-ubuntu16.04.2 [107 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3 [43.5 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.8 [548 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl127 amd64 3.4.10-4ubuntu1.8 [21.9 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-5ubuntu2 [52.7 kB]
Fetched 1307 kB in 6s (214 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libgmp10:amd64.
(Reading database ... 4780 files and directories currently installed.)
Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...
Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Selecting previously unselected package libnettle6:amd64.
Preparing to unpack .../libnettle6_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libhogweed4:amd64.
Preparing to unpack .../libhogweed4_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libidn11:amd64.
Preparing to unpack .../libidn11_1.32-3ubuntu1.2_amd64.deb ...
Unpacking libidn11:amd64 (1.32-3ubuntu1.2) ...
Selecting previously unselected package libffi6:amd64.
Preparing to unpack .../libffi6_3.2.1-4_amd64.deb ...
Unpacking libffi6:amd64 (3.2.1-4) ...
Selecting previously unselected package libp11-kit0:amd64.
Preparing to unpack .../libp11-kit0_0.23.2-5-ubuntu16.04.2_amd64.deb ...
Unpacking libp11-kit0:amd64 (0.23.2-5-ubuntu16.04.2) ...
Selecting previously unselected package libtasn1-6:amd64.
Preparing to unpack .../libtasn1-6_4.7-3ubuntu0.16.04.3_amd64.deb ...
Unpacking libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Selecting previously unselected package libgnutls30:amd64.
Preparing to unpack .../libgnutls30_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package libgnutls-openssl127:amd64.
Preparing to unpack .../libgnutls-openssl127_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls-openssl127:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package iputils-ping.
Preparing to unpack .../iputils-ping_3%3a20121221-5ubuntu2_amd64.deb ...
Unpacking iputils-ping (3:20121221-5ubuntu2) ...
Processing triggers for libc-bin (2.23-0ubuntu11.2) ...
Setting up libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Setting up libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libidn11:amd64 (1.32-3ubuntu1.2) ...
Setting up libffi6:amd64 (3.2.1-4) ...
Setting up libp11-kit0:amd64 (0.23.2-5-ubuntu16.04.2) ...
Setting up libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Setting up libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Setting up libgnutls-openssl127:amd64 (3.4.10-4ubuntu1.8) ...
Setting up iputils-ping (3:20121221-5ubuntu2) ...
Setcap is not installed, falling back to setuid
Processing triggers for libc-bin (2.23-0ubuntu11.2) ...
```

```

root@906a05761ce2:/# ping google.com
PING google.com (142.250.204.46) 56(84) bytes of data.
64 bytes from 142.250.204.46: icmp_seq=1 ttl=37 time=81.4 ms
64 bytes from 142.250.204.46: icmp_seq=2 ttl=37 time=32.0 ms
64 bytes from 142.250.204.46: icmp_seq=3 ttl=37 time=31.6 ms
64 bytes from 142.250.204.46: icmp_seq=4 ttl=37 time=31.3 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 31.388/44.147/81.459/21.544 ms
root@906a05761ce2:/# exit
exit

```

Committing a container state as a new image

```

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
906a05761ce2   ubuntu:16.04   "/bin/bash"             6 minutes ago   Exited (0) 44 seconds ago           heuristic_spence

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker commit --help

Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]

Create a new image from a container's changes

Options:
-a, --author string      Author (e.g., "John Hannibal Smith
                        <hannibal@a-team.com>")
-c, --change list        Apply Dockerfile instruction to the created image
-m, --message string     Commit message
-p, --pause              Pause container during commit (default true)

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker commit -a 'Kay Sagun' -m 'Added ping utility' 906 kay-sagun/ping
"docker commit" requires at least 1 and at most 2 arguments.
See 'docker commit --help'.

Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]

Create a new image from a container's changes

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker commit 906a05761ce2 kaysagun/ping
sha256:3bac50d5289ddae3926f8f71a56caa686971c4bebd020ce9aa5a5832a0090da

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
kaysagun/ping latest    3bac50d5289d   2 minutes ago  169MB
ubuntu        16.04    aefd7f02ae24   2 weeks ago   134MB

```

^The command in the exercise instructions to commit a container as a new image (docker commit -a 'David Elner' -m 'Added ping utility.' 786 delner/ping) doesn't work for me and I think it's because I am using Windows OS. Most of the commands in the exercises work on Windows but some don't.

```

C:\Users\kaysagun\Desktop\CoE_197\ME8_Containerization_and_Docker>docker run -it --rm kaysagun/ping /bin/bash
root@92d7b2f1314d:/# ping google.com
PING google.com (142.250.204.46) 56(84) bytes of data.
64 bytes from 142.250.204.46: icmp_seq=1 ttl=37 time=1103 ms
64 bytes from 142.250.204.46: icmp_seq=2 ttl=37 time=32.0 ms
64 bytes from 142.250.204.46: icmp_seq=3 ttl=37 time=31.4 ms
64 bytes from 142.250.204.46: icmp_seq=4 ttl=37 time=46.0 ms
64 bytes from 142.250.204.46: icmp_seq=5 ttl=37 time=59.6 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4318ms
rtt min/avg/max/mdev = 31.457/254.538/1103.500/424.608 ms
root@92d7b2f1314d:/# exit
exit

```